L Number	Hits	Search Text	DB	Time stamp
1	4	"6252048"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:38
2	5	"6046036"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:39
3	2	"5879899"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:39
5	9	"6252048" or "6046036" or "5879899"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:41
6	839	kuramitsu.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:41
7	2	kuramitsu.in. and muty	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:48
8	896	MutY and fusion	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:42
9	3	MutY same fusion	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:42
10	4	MutY same thermophilus	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:45
11	6	MutY same thermus	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:45
12	1	kuramitsu.in. and muty and fusion	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:49
13	0	kuramitsu.in. and muty adj10 used	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:49
14	0	kuramitsu.in. and muty adj20 used	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:49

15	0	kuramitsu.in. and muty adj20 function	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:49
16	0	kuramitsu.in. and muty adj10 for	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:50
17	0	kuramitsu.in. and muty adj10 method	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:50
18	5	kuramitsu.in. and enzyme adj10 used	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/09 10:50

```
FILE 'MEDLINE' ENTERED AT 10:58:33 ON 09 MAR 2004

FILE 'CAPLUS' ENTERED AT 10:58:33 ON 09 MAR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> s mutY and thermu
L1          10 MUTY AND THERMU

=> s mutY and thermus
L2          10 MUTY AND THERMUS

=> s l2 and py<=2001
L3           6 L2 AND PY<=2001

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4           5 DUP REM L3 (1 DUPLICATE REMOVED)

=> d ibib abs 1-5

L4   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2004 ACS on STN
```

Full Text | Citing References

```
ACCESSION NUMBER:          2001:731046  CAPLUS
DOCUMENT NUMBER:           135:283927
TITLE:                     Chimeric proteins for detection and quantitation of
                           DNA mutations, DNA sequence variations, DNA damage and
                           DNA mismatches
INVENTOR(S):               McCutchen-Maloney, Sandra L.
PATENT ASSIGNEE(S):        Regents of the University of California, USA
SOURCE:                    PCT Int. Appl., 128 pp.
                           CODEN: PIXXD2
DOCUMENT TYPE:             Patent
LANGUAGE:                  English
FAMILY ACC. NUM. COUNT:    1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ----------------  ----  --------       ---------------  --------
     WO 2001073079      A2   20011004       WO 2001-US9700   20010326 <--
     WO 2001073079      A3   20020516
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
             ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 6340566         B1   20020122       US 2000-651656   20000829
     US 6365355         B1   20020402       US 2000-650855   20000829
PRIORITY APPLN. INFO.:                     US 2000-192764P  P  20000328
                                           US 2000-650855   A  20000829

AB   Chimeric proteins having both DNA mutation regions binding activity and
     nuclease activity are synthesized by recombinant technol.  The proteins
     are of the general formula A-L-B and B-L-A where A is a peptide having DNA
     mutation region binding activity, L is a linker and B is a peptide having
```

nuclease activity. The chimeric proteins are useful for detection and identification of DNA sequence variations including DNA mutations (including DNA damage and mismatches) by binding to the DNA mutation and cutting the DNA once the DNA mutation is detected. Prepn. of chimeric encoding cDNA by PCR, recombinant prepn. of 12 chimeric proteins such as Nuc-Linker-XPA fragment, and assaying for activity for DNA damage detection were also described. The method may be used for disease detection.

L4 ANSWER 2 OF 5 MEDLINE on STN

Full Text | Citing References

ACCESSION NUMBER: 2001544679 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11591657
TITLE: Molecular cloning and functional analysis of the **MutY** homolog of Deinococcus radiodurans.
AUTHOR: Li X; Lu A L
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, School of Medicine, University of Maryland, Baltimore, Maryland 21201, USA.
CONTRACT NUMBER: GM 35132 (NIGMS)
SOURCE: Journal of bacteriology, **(2001 Nov)** 183 (21) 6151-8. Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20011010
Last Updated on STN: 20020122
Entered Medline: 20011204

AB The **mutY** homolog gene (**mutY**(Dr)) from Deinococcus radiodurans encodes a 39.4-kDa protein consisting of 363 amino acids that displays 35% identity to the Escherichia coli **MutY** (**MutY**(Ec)) protein. Expressed **MutY**(Dr) is able to complement E. coli **mutY** mutants but not mutM mutants to reduce the mutation frequency. The glycosylase and binding activities of **MutY**(Dr) with an A/G-containing substrate are more sensitive to high salt and EDTA concentrations than the activities with an A/7,8-dihydro-8-oxoguanine (GO)-containing substrate are. Like the **MutY**(Ec) protein, purified recombinant **MutY**(Dr) expressed in E. coli has adenine glycosylase activity with A/G, A/C, and A/GO mismatches and weak guanine glycosylase activity with a G/GO mismatch. However, **MutY**(Dr) exhibits limited apurinic/apyrimidinic lyase activity and can form only weak covalent protein-DNA complexes in the presence of sodium borohydride. This may be due to an arginine residue that is present in **MutY**(Dr) at the position corresponding to the position of **MutY**(Ec) Lys142, which forms the Schiff base with DNA. The kinetic parameters of **MutY**(Dr) are similar to those of **MutY**(Ec). Although **MutY**(Dr) has similar substrate specificity and a binding preference for an A/GO mismatch over an A/G mismatch, as **MutY**(Ec) does, the binding affinities for both mismatches are slightly lower for **MutY**(Dr) than for **MutY**(Ec). Thus, **MutY**(Dr) can protect the cell from GO mutational effects caused by ionizing radiation and oxidative stress.

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

ACCESSION NUMBER: 1999:530333 CAPLUS
DOCUMENT NUMBER: 131:180792
TITLE: Methods for removing mutation-inducing nucleotides

during DNA amplification by using MutM and/or **MutY** protein of **Thermus** thermophilus

INVENTOR(S): Arakawa, Taku; Nishiya, Yoshiaki; Kawakami, Fumikiyo; Kawamura, Yoshihisa; Kuramitsu, Shigenori

PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11225798	A2	19990824	JP 1998-32738	19980216 <--

PRIORITY APPLN. INFO.: JP 1998-32738 19980216

AB Described is a method to remove the mutation-inducing nucleotides generated during DNA amplification by PCR or other methods and thus to reduce mutation. The method employs thermostable MutM and/or **MutY** proteins of **Thermus** thermophilus, which proteins are able to remove 8-oxoguanine. The method was demonstrated by amplification of pMOL2, a plasmid vector that carries ampicillin resistance gene and rpsL gene and has been used for the assessment of DNA amplification error during PCR.

L4 ANSWER 4 OF 5 MEDLINE on STN DUPLICATE 1

Full Text | Citing References

ACCESSION NUMBER: 1998127985 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9461446

TITLE: Thermostable repair enzyme for oxidative DNA damage from extremely thermophilic bacterium, **Thermus** thermophilus HB8.

COMMENT: Erratum in: Nucleic Acids Res 1998 Apr 1;26(7):following 1855

AUTHOR: Mikawa T; Kato R; Sugahara M; Kuramitsu S

CORPORATE SOURCE: Department of Biology, Graduate School of Science, Osaka University, 1-1 Machikaneyama-cho, Toyonaka, Osaka 560, Japan.

SOURCE: Nucleic acids research, **(1998 Feb 15)** 26 (4) 903-10.
Journal code: 0411011. ISSN: 0305-1048.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-AB008520

ENTRY MONTH: 199803

ENTRY DATE: Entered STN: 19980326
Last Updated on STN: 20020815
Entered Medline: 19980317

AB The mutM (fpg) gene, which encodes a DNA glycosylase that excises an oxidatively damaged form of guanine, was cloned from an extremely thermophilic bacterium, **Thermus** thermophilus HB8. Its nucleotide sequence encoded a 266 amino acid protein with a molecular mass of approximately 30 kDa. Its predicted amino acid sequence showed 42% identity with the Escherichia coli protein. The amino acid residues Cys, Asn, Gln and Met, known to be chemically unstable at high temperatures, were decreased in number in T.thermophilus MutM protein compared to those of the E.coli one, whereas the number of Pro residues, considered to increase protein stability, was increased. The T.thermophilus mutM gene complemented the mutability of the E.coli mutM **mutY** double mutant,

suggesting that T. thermophilus MutM protein was active in E.coli. The T.thermophilus MutM protein was overproduced in E.coli and then purified to homogeneity. Size-exclusion chromatography indicated that T. thermophilus MutM protein exists as a more compact monomer than the E.coli MutM protein in solution. Circular dichroism measurements indicated that the alpha-helical content of the protein was approximately 30%. **Thermus** thermophilus MutM protein was stable up to 75 degrees C at neutral pH, and between pH 5 and 11 and in the presence of up to 4 M urea at 25 degrees C. Denaturation analysis of T.thermophilus MutM protein in the presence of urea suggested that the protein had at least two domains, with estimated stabilities of 8.6 and 16.2 kcal/mol-1, respectively. **Thermus** thermophilus MutM protein showed 8-oxoguanine DNA glycosylase activity in vitro at both low and high temperatures.

L4 ANSWER 5 OF 5 MEDLINE on STN

Full Text | Citing References

ACCESSION NUMBER: 94213845 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8161527
TITLE: DNA replication fidelity with 8-oxodeoxyguanosine triphosphate.
AUTHOR: Pavlov Y I; Minnick D T; Izuta S; Kunkel T A
CORPORATE SOURCE: Laboratory of Molecular Genetics, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina 27709.
SOURCE: Biochemistry, **(1994 Apr 19)** 33 (15) 4695-701.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199405
ENTRY DATE: Entered STN: 19940606
Last Updated on STN: 19980206
Entered Medline: 19940526

AB Oxidative metabolism is known to generate mutagenic compounds within cells, among which is 8-oxodeoxyguanosine. Here the mutagenic potential of the triphosphate form of this base analog (8-O-dGTP) is investigated during replication in vitro of the lacZ alpha-complementation sequence in M13mp2 DNA. Adding 8-O-dGTP at equimolar concentration with the normal dNTPs to polymerization reactions decreases the fidelity of DNA synthesis by exonuclease-deficient Klenow, T4, and **Thermus** thermophilus DNA polymerases. Sequence analysis of mutants suggests that 8-O-dGMP is misincorporated opposite template adenines, yielding A-->C transversions. The degree of polymerase selectivity against this error is enzyme-dependent, with rates varying by > 25-fold. To determine if the A.8-O-dGMP mispair is proofread, a direct comparison of the fidelity of proofreading-proficient and proofreading-deficient Klenow and T4 DNA polymerases was made. Although the exonuclease activity of Klenow polymerase did not substantially reduce overall misincorporation of 8-O-dGMP, misincorporation was lower for the proofreading-proficient T4 enzyme as compared to its proofreading-deficient derivative. These data suggest that the A.8-O-dGMP mispair can be proofread. The mutagenic potential of 8-O-dGTP with eukaryotic systems was also examined. Misincorporation of 8-O-dGTP opposite adenine was observed during SV40 origin-dependent replication of double-stranded DNA in HeLa cell extracts. When present during replication at a concentration equal to the four normal dNTPs, 8-O-dGTP was at least 13-fold more mutagenic for A.T-->C.G transversions than was a 100-fold excess of normal dGTP.(ABSTRACT TRUNCATED AT 250 WORDS)

```
=> d his

     (FILE 'HOME' ENTERED AT 10:58:24 ON 09 MAR 2004)

     FILE 'MEDLINE, CAPLUS' ENTERED AT 10:58:33 ON 09 MAR 2004
L1            10 S MUTY AND THERMU
L2            10 S MUTY AND THERMUS
L3             6 S L2 AND PY<=2001
L4             5 DUP REM L3 (1 DUPLICATE REMOVED)
```